



<400> 3  
ttgcttccat cttcctcgtc 20

<210> 4  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(18)  
<223> phosphorothioate inter-nucleotide linkage

<220>  
<221> misc\_feature  
<222> (15)..(15)  
<223> nucleotide functionalized to incorporate a pentyl-N-phthalimido f  
unctionality

<400> 4  
tgggagccat agcgaggc 18

<210> 5  
<211> 18  
<212> RNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(1)  
<223> 2'-O-modified phosphoramidite

<220>  
<221> misc\_feature  
<222> (10)..(10)  
<223> 2'-O-modified phosphoramidite

<400> 5  
ugggagccau agcgaggc 18

<210> 6  
<211> 16  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<400> 6  
tccaggtgtc cgcatac 16

<210> 7  
<211> 17  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

```
<220>
<221> misc_feature
<222> (8)..(9)
<223> nucleotide functionalized to incorporate a pentylamino functional
ity
```

```
<220>
<221> misc_feature
<222> (13)..(13)
<223> nucleotide functionalized to incorporate a pentylamino functional
ity
```

```
<220>
<221> misc_feature
<222> (16)..(16)
<223> nucleotide functionalized to incorporate a pentylamino functional
ity
```

<400> 7  
ggaccggaac ctacgag 17

```
<210>      8
<211>     17
<212>     DNA
<213> Artificial Sequence
```

<220>  
<223> Oligonucleotide

```
<400>      8
cctggccttc catgctc                                     17
```

<210>	9
<211>	17
<212>	RNA
<213>	Artificial Sequence

<220>  
<223> Oligonucleotide

<400> 9  
ccugggccuuc caugcuc 17

<210>	10
<211>	15
<212>	RNA
<213>	Artificial Sequence

<220>  
<223> Oligonucleotide

```
<400> 10
chacccagggc ucaga 15
```

<210>	11
<211>	12
<212>	RNA
<213>	Artificial Sequence

```

<220>
<223> Oligonucleotide

<400> 11
gagcucccag gc 12

<210> 12
<211> 12
<212> RNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 12
caugcugcag cc 12

<210> 13
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 13
gccttttcgcg acccaacacu 20

<210> 14
<211> 11
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<220>
<221> misc_feature
<222> (6)..(6)
<223> hexyl-(N-phthalimido)amino]-uridine

<400> 14
gcgtguctgc g 11

<210> 15
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<220>
<221> misc_feature
<222> (1)..(1)
<223> 2'-O-modified phosphoramidite

<220>
<221> misc_feature
<222> (18)..(18)
<223> non-nucleoside 6-carbon amino linker

<400> 15
ugggagccat agcgaggc 18

```

<210> 16  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<220>  
 <221> misc\_feature  
 <222> (10)..(10)  
 <223> 2'-O-modified phosphoramidite

<400> 16  
 tgggagccau agcgaggc

18

<210> 17  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<220>  
 <221> misc\_feature  
 <222> (1)..(1)  
 <223> 2'-O-modified phosphoramidite

<220>  
 <221> misc\_feature  
 <222> (1)..(20)  
 <223> 2'-O-methyl

<220>  
 <221> misc\_feature  
 <222> (20)..(20)  
 <223> non-nucleoside 6-carbon amino linker

<400> 17  
 uctgagtagc agaggagctc

20

<210> 18  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<220>  
 <221> misc\_feature  
 <222> (1)..(1)  
 <223> 2'-O-modified phosphoramidite

<400> 18  
 ugccaagct ggcacccgctc a

21

<210> 19  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<220>  
 <221> misc\_feature  
 <222> (1)..(1)  
 <223> 2'-O-modified phosphoramidite

<400> 19  
 ugcgtttgct cttcttcttg cg 22

<210> 20  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<220>  
 <221> misc\_feature  
 <222> (1)..(1)  
 <223> 2'-O-modified phosphoramidite

<400> 20  
 ugcacccccc aggccacat 20

<210> 21  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<220>  
 <221> misc\_feature  
 <222> (1)..(1)  
 <223> 2'-O-modified phosphoramidite

<400> 21  
 ucccgcctgt gacatgcatt 20

<210> 22  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<400> 22  
 gutctcgctg gtgagtttca 20

<210> 23  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<220>  
 <221> misc\_feature  
 <222> (1)..(1)  
 <223> U2'modified with fluorescein

<400> 23  
ugggagccat agcgaggc 18

<210> 24  
<211> 12  
<212> RNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<220>  
<221> misc\_feature  
<222> (4)..(4)  
<223> nucleotide functionalized to incorporate a pentyl-N-phthalimido

<400> 24  
ccaagccuca ga 12

<210> 25  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<220>  
<221> misc\_feature  
<222> (11)..(11)  
<223> nucleotide functionalized to incorporate a pentyl-N-phthalimido

<400> 25  
ccaggcucag at 12

<210> 26  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<220>  
<221> misc\_feature  
<222> (9)..(9)  
<223> nucleotide functionalized to incorporate a pentyl-N-phthalimido  
functionality

<220>  
<221> misc\_feature  
<222> (18)..(18)  
<223> nucleotide functionalized to incorporate a pentyl-N-phthalimido  
functionality

<400> 26  
ctgtctccat cctcttcact 20

<210> 27  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<400> 27  
gagccgctac tcgaatgagc 20

<210> 28  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<400> 28  
gttctggctt ccgttgccacc 20

<210> 29  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<400> 29  
cccggcccgg attgactgaa 20

<210> 30  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<400> 30  
ccatcccgcac ctgcgcgtcc 20

<210> 31  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<400> 31  
cgggcccttc aagatccat 19

<210> 32  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<400> 32  
ccccttcaag atccatcccg 20

<210> 33  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide



<400> 33 caagatccat cccgacctcg	20
<210> 34 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Oligonucleotide	
<400> 34 cctggatcatg tcttcctcca	20
<210> 35 <211> 15 <212> DNA <213> Artificial Sequence	
<220> <223> Oligonucleotide	
<400> 35 ctttgccag acagc	15
<210> 36 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Oligonucleotide	
<400> 36 gttcactggc gctttcttcc	20
<210> 37 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Oligonucleotide	
<400> 37 tgaacttgac tgaggaaatg	20
<210> 38 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Oligonucleotide	
<400> 38 cttgaagag ccgctactcg	20
<210> 39 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Oligonucleotide	
<400> 39	

<210> 46  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<400> 46  
tgcaaacatt tcaatacttt 20

<210> 47  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<400> 47  
aagtttagtt ttattataga 20

<210> 48  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<400> 48  
caccaccccc ctcgctggtc 20

<210> 49  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<400> 49  
ctcccgcaca tctccgcgcc 20

<210> 50  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<400> 50  
gccaccgtct gccactctg 20

<210> 51  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<400> 51  
ggcacgtgca atggcgatcc 20

```
<210> 52
<211> 20
<212> DNA
<213> Artificial Sequence
```

<220>  
<223> Oligonucleotide

```
<400> 52
cggagccgct  tggtgaggat  20
```

```
<210> 53
<211> 20
<212> DNA
<213> Artificial Sequence
```

<220>  
<223> Oligonucleotide

```
<400> 53
aqcagcatca ttggcgagcc 20
```

<210>	54
<211>	20
<212>	DNA
<213>	Artificial Sequence

<220>  
<223> Oligonucleotide

```
<400> 54
cggccatggc accaaagaca 20
```

```
<210> 55
<211> 20
<212> DNA
<213> Artificial Sequence
```

<220>  
<223> Oligonucleotide

```
<400> 55
tgaactgact tgccccacgg 20
```

<210>	56
<211>	20
<212>	DNA
<213>	Artificial Sequence

<220>  
<223> Oligonucleotide

```
<400> 56
gggatgtccg gtcggggtggg 20
```

<210>	57
<211>	20
<212>	DNA
<213>	Artificial Sequence

<220>  
<223> Oligonucleotide

```
<400> 57
tgcccaccag agccagcgtc 20
```

<210> 58  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<400> 58  
 atgccaggt gtgctcggag 20

<210> 59  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<400> 59  
 gcctcctttg ctgccctcac 20

<210> 60  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<400> 60  
 tgggtggacag gcggtgagca 20

<210> 61  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<400> 61  
 ggatccttgaa ggggaccgca atggaggagc 30

<210> 62  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<400> 62  
 gtccaacact aaaagcccca attaatacag 30

<210> 63  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<400> 63  
 cttaccgct tgtgttgctg 20

<210> 64

<211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<400> 64  
 gcgttgctct tcttcttgcg

20

<210> 65  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<220>  
 <221> misc\_feature  
 <222> (9)..(9)  
 <223> nucleotide functionalized to incorporate a biotin functionality

<220>  
 <221> misc\_feature  
 <222> (18)..(18)  
 <223> nucleotide functionalized to incorporate a biotin functionality

<400> 65  
 ctgtctccat cctcttcact

20

<210> 66  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<220>  
 <221> misc\_feature  
 <222> (1)..(18)  
 <223> phosphorothioate inter-nucleotide linkage

<220>  
 <221> misc\_feature  
 <222> (5)..(5)  
 <223> nucleotide functionalized to incorporate a pentyl-N-phthalimido functionality

<220>  
 <221> misc\_feature  
 <222> (9)..(9)  
 <223> nucleotide functionalized to incorporate a pentyl-N-phthalimido functionality

<220>  
 <221> misc\_feature  
 <222> (11)..(11)  
 <223> nucleotide functionalized to incorporate a pentyl-N-phthalimido

<220>  
 <221> misc\_feature  
 <222> (15)..(15)  
 <223> nucleotide functionalized to incorporate a pentyl-N-phthalimido f

unctionality

<400> 66  
tgggagccat agcgaggc 18

<210> 67  
<211> 17  
<212> RNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<400> 67  
gcccgcgacc caacacu 17

<210> 68  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(1)  
<223> 2'-O-modified phosphoramidite

<400> 68  
ugggagccat agcgaggc 18

<210> 69  
<211> 18  
<212> RNA  
<213> Artificial Sequence

<220>  
<223> Oligonucleotide

<220>  
<221> misc\_feature  
<222> (1)..(1)  
<223> 2'-O-modified phosphoramidite

<220>  
<221> misc\_feature  
<222> (18)..(18)  
<223> non-nucleoside 6-carbon amino linker

<220>  
<221> misc\_feature  
<222> (10)..(10)  
<223> 2'-O-modified phosphoramidite

<400> 69  
ugggagccau agcgaggc 18

<210> 70  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>

```
<223>  Oligonucleotide

<220>
<221>  misc_feature
<222>  (1)..(1)
<223>  2'-O-modified phosphoramidite

<220>
<221>  misc_feature
<222>  (21)..(21)
<223>  non-nucleoside 6-carbon amino linker
```

```
<400> 70
ugcccaagct ggcattccgtc a
```

21

<210>	71
<211>	19
<212>	DNA
<213>	Artificial Sequence

<220>  
<223> Oligonucleotide

```
<220>
<221> misc_feature
<222> (1)..(1)
<223> 2'-O-modified phosphoramidite
```

```
<400> 71
ugcatcccc aggccacca
```

19

```
<210> 72
<211> 20
<212> DNA
<213> Artificial Sequence
```

<220>  
<223> Oligonucleotide

```
<400> 72
ctgtctccat cctcttcact
```

20

```
<210> 73
<211> 21
<212> DNA
<213> Artificial Sequence
```

<220>  
<223> Oligonucleotide

```
<220>
<221> misc_feature
<222> (1)..(1)
<223> 2'-O-modified phosphoramidite
```

<400> 73  
ugcccaagct ggcattccgtc a

21

```
<210> 74
<211> 20
<212> DNA
<213> Artificial Sequence
```

<220>  
<223> Oligonucleotide

<220>  
 <221> misc\_feature  
 <222> (9)..(9)  
 <223> nucleotide functionalized to incorporate a fluorescein functionality

<400> 74  
 ctgtctccat cctcttcact 20

<210> 75  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<220>  
 <221> misc\_feature  
 <222> (9)..(9)  
 <223> nucleotide functionalized to incorporate a fluorescein functionality

<220>  
 <221> misc\_feature  
 <222> (18)..(18)  
 <223> nucleotide functionalized to incorporate a fluorescein functionality

<400> 75  
 ctgtctccat cctcttcact 20

<210> 76  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<220>  
 <221> misc\_feature  
 <222> (9)..(9)  
 <223> nucleotide functionalized to incorporate a cholic acid functionality

<400> 76  
 ctgtctccat cctcttcact 20

<210> 77  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide

<220>  
 <221> misc\_feature  
 <222> (9)..(9)  
 <223> nucleotide functionalized to incorporate a cholic acid functionality

<220>



```
<221> misc_feature
<222> (18)..(18)
<223> nucleotide functionalized to incorporate a cholic acid functional
ity
```

```
<400> 77
ctgtctccat cctcttcaact
20
```

<210>	78
<211>	20
<212>	DNA
<213>	Artificial Sequence

```
<220>
<223>  Oligonucleotide
```

```
<220>
<221> misc_feature
<222> (9)..(9)
<223> nucleotide functionalized to incorporate a digoxigenin functional
ity
```

```
<400> 78
ctgtctccat cctcttcact 20
```